

SEQUENCE LISTING

<110> Ebner, Reinhard
Ruben, Steven

<120> Interleukins-21 and 22

<130> PF470P1

<150> 60/169,837

<151> 1999-12-09

<150> 09/320,713

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<151> 1998-05-29

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<151> 1998-09-10

<150> 60/131,965

<151> 1999-04-30

<150> PCT US99/11644

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<170> PatentIn version 3.0

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Ala	Glu	Cys	Leu	Cys	Arg	Gly	Cys	Ile	Asp	Ala	Arg	Thr	Gly	Arg	Glu		
		20						25					30				

aca	gct	gcg	ctc	aac	tcc	gtg	cgg	ctg	ctc	cag	agc	ctg	ctg	gtg	ctg		145
Thr	Ala	Ala	Leu	Asn	Ser	Val	Arg	Leu	Leu	Gln	Ser	Leu	Leu	Val	Leu		
		35					40					45					

cgc	cgc	cgg	ccc	tgc	tcc	cgc	gac	ggc	tcg	ggg	ctc	ccc	aca	cct	ggg		193
Arg	Arg	Arg	Pro	Cys	Ser	Arg	Asp	Gly	Ser	Gly	Leu	Pro	Thr	Pro	Gly		
		50				55					60						

gcc	ttt	gcc	ttc	cac	acc	gag	ttc	atc	cac	gtc	ccc	gtc	ggc	tgc	acc		241
Ala	Phe	Ala	Phe	His	Thr	Glu	Phe	Ile	His	Val	Pro	Val	Gly	Cys	Thr		
65				70						75					80		

tgc	gtg	ctg	ccc	cgt	tca	gtg	tgaccgccaa	ggccgtgggg	cccttagact								292
Cys	Val	Leu	Pro	Arg	Ser	Val											
				85													

[illegible]

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35 40 45

Val Ser Pro Trp Ala Tyr Arg Ile Ser Tyr Asp Pro Ala Arg Tyr Pro
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Arg Tyr Leu Pro Glu Ala Tyr Cys Leu Cys Arg Gly Cys Leu Thr Gly
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Leu Phe Gly Glu Glu Asp Val Arg Phe Arg Ser Ala Pro Val Tyr Met
85 90 95

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100 105 110

Val Tyr Thr Glu Ala Tyr Val Thr Ile Pro Val Gly Cys Thr Cys Val
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35 40 45

Ile Arg Asn Trp Asn Thr Ser Ser Lys Arg Ala Ser Asp Tyr Tyr Asn
50 55 60

Arg Ser Thr Ser Pro Trp Thr Leu His Arg Asn Glu Asp Gln Asp Arg
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Tyr Pro Ser Val Ile Trp Glu Ala Lys Cys Arg Tyr Leu Gly Cys Val
85 90 95

Asn Ala Asp Gly Asn Val Asp Tyr His Met Asn Ser Val Pro Ile Gln
100 105 110

Gln Glu Ile Leu Val Val Arg Lys Gly His Gln Pro Cys Pro Asn Ser
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Gly Arg Pro Gly Pro Leu Ala Pro Gly Pro His Gln Val Pro Leu Asp
35 40 45

Leu Val Ser Arg Met Lys Pro Tyr Ala Arg Met Glu Glu Tyr Glu Arg
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Asn Ile Glu Glu Met Val Ala Gln Leu Arg Asn Ser Ser Glu Leu Ala
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Gln Arg Lys Cys Glu Val Asn Leu Gln Leu Trp Met Ser Asn Lys Arg
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Pro Phe Thr Met Gln Glu Asp Arg Ser Met Val Ser Val Pro Val Phe
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<222> (1)..(45)
<223> 5' primer containing a BamHI restriction site followed by
several nucleotides of the amino terminal coding
sequence of mature IL-21 sequence

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to preserve the reading frame, and 16 nucleotides of the sequence of the complete IL-21 protein.

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<210> 12
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<212> DNA
<213> OLIGONUCLEOTIDE

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<222> (1)..(29)
<223> 3' primer containing an Asp718 restriction site, and 20 nucleotides complementary to the 3' noncoding sequence of IL-21.

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<210> 13
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tctcccgga tctgaggtc acatgcgtgg tggtagacgt aagccacgaa gaccctgagg 180
tcaagttcaa ctggtacgtg gacggcgtgg aggtgcataa tgccaagaca aagccgcggg 240
aggagcagta caacagcacg taccgtgtgg tcagcgtcct caccgtcctg caccaggact 300
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catcccgga tgagctgacc aagaaccagg tcagcctgac ctgcctgggc aaaggcttct 480
atccaagcga catcgccgtg gtagtgggaga gcaatgggca gccggagaa aactacaaga 540
ccacgcctcc cgtgctggac tccgacggct ccttcttct ctacagcaag ctcaccgtgg 600
acaagagcag gtggcagcag gggaacgtct tctcatgtc cgtgatgcat gaggctctgc 660
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 ctgccccggg aggtctcccc ggncccgcat cccgaggcgc ccaagctgga gccgcctgga 180
 ggnttcggtc ggcgactctg aagagagtnc accgagcaaa ccaagtgcg gagcaacagc 240
 gncgnctttt ncatggagat tcgtaagcan ttttcatttg acanggggat ccctgggttg 300
 tttttagtta caagcaagca nntggnttga agtngntggg gaaaggancc gnagggattc 360
 tgtnttnggg gccntntgga gggttttgga aaatttnagg gggtttctgn gggtttttta 420
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Pro His Leu Leu Ala Arg Gly Ala Lys Trp Gly Gln Ala Leu Pro Val
50 55 60

Arg Pro Ser Ala Thr Thr Gln Cys Pro Val Leu Arg Pro Glu Glu Val
85 90 95

Val Asp Thr Asp Glu Asp Arg Tyr Pro Gln Lys Leu Ala Phe Ala Glu
115 120 125

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Ala Leu Asn Ser Val Arg Leu Leu Gln Ser Leu Leu Val Leu Arg Arg
 145 150 155 160

Arg Pro Cys Ser Arg Asp Gly Ser Gly Leu Pro Thr Pro Gly Ala Phe
 165 170 175

Ala Phe His Thr Glu Phe Ile His Val Pro Val Gly Cys Thr Cys Val
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 Glu Lys Asp Ala Asp Ser Ile Asn Ser Ser Ile Asp Lys Gln Gly Ala
 145 150 155 160
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 35 40 45
 Ala Asp Arg Arg Phe Arg Pro Pro Thr Asn Leu Arg Ser Val Ser Pro
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 Trp Ala Tyr Arg Ile Ser Tyr Asp Pro Ala Arg Tyr Pro Arg Tyr Leu
 65 70 75 80
 Pro Glu Ala Tyr Cys Leu Cys Arg Gly Cys Leu Thr Gly Leu Phe Gly
 85 90 95
 Glu Glu Asp Val Arg Phe Arg Ser Ala Pro Val Tyr Met Pro Thr Val
 100 105 110
 Val Leu Arg Arg Thr Pro Ala Cys Ala Gly Gly Arg Ser Val Tyr Thr
 115 120 125
 Glu Ala Tyr Val Thr Ile Pro Val Gly Cys Thr Cys Val Pro Glu Pro
 130 135 140
 Glu Lys Asp Ala Asp Ser Ile Asn Ser Ser Ile Asp Lys Gln Gly Ala
 145 150 155 160
 Lys Leu Leu Leu Gly Pro Asn Asp Ala Pro Ala Gly Pro
 165 170